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# Bullseye! Odyssey hits the mark



Photo by Dutch Slager / JPL Photolab

“Hundreds and hundreds of things had to go right, and they did. We are all excited about our success and I am proud of all the members of our team.”

— Matt Landano,  
2001 Mars Odyssey project manager

Odyssey Deputy Project Manager Roger Gibbs, right, embraces Mission Manager David A. Spencer following successful Mars orbit insertion. At left is Bob Berry, Odyssey program manager at Lockheed Martin Astronautics.

With a heroic effort led by JPL’s 2001 Mars Odyssey team, the United States returned to Mars on the evening of Oct. 23 as the spacecraft fired its main engine at 7:26 p.m. Pacific time and was captured into orbit around the Red Planet.

At 7:55 p.m., flight controllers at the Deep Space Network station in Goldstone, Calif., and Canberra, Australia, picked up the first radio signal from the spacecraft as it emerged from behind Mars. On Wednesday morning, flight controllers reported the spacecraft is in excellent health and is in a looping orbit around Mars of 18 hours and 36 minutes. “Odyssey flawlessly achieved (Tuesday’s) one-time critical event of Mars orbit insertion,” said Project Manager Matt Landano. “Hundreds

and hundreds of things had to go right, and they did. We are all excited about our success and I am proud of all the members of our team.” The navigation proved to be equally precise. “We were aiming for a point 300 kilometers (186.5 miles) above Mars and we hit that point within one kilometer (.6 miles),” noted Bob Mase, the Mars Odyssey lead navigator at JPL. “Because of the excellent main engine burn, we will not need to do any more maneuvers to adjust the orbit before we begin aerobraking on (Oct. 26).” Over the next three months, aerobraking will reduce the long elliptical orbit into a shorter, two-hour circular orbit of approximately 400 kilometers (about 250 miles) altitude. On Wednesday, the team turned on the electronics for the gamma ray spectrometer subsystem and began taking data with the high-energy neutron detector and the neutron spectrometer instruments. These detectors may help scientists locate water near the surface of Mars, if it exists.

Scientists were scheduled to take the first picture with the thermal emission imaging system on Sunday, Oct. 28. That image is expected to be a wide-angle view of the southern hemisphere taken when Odyssey is farthest away from Mars. The primary science mission will begin in January 2002. Landano thanked George Pace, the Odyssey project manager from the development of the mission through launch, “for providing us with an excellent spacecraft and an outstanding team.” Added Mase: “The navigation team was challenged to hit a bullseye for this mission. I’m pleased to report that’s exactly what we were able to deliver. “Over the last couple of months, with all of the world events, it’s been hard for the team to not be distracted and be able to focus on the work it needs to do. But that’s what we’re trained and equipped to do. And I’m very proud as an American that we were able to do our part and bring a success to our country.” A number of NASA officials were on hand to share in the success. In addition to the agency’s administrator, Daniel Goldin, those who visited mission control in Building 230 included Associate Administrator for Space Science Dr. Ed Weiler; Mars Program Director Orlando Figueroa; his predecessor, Dr. Scott Hubbard; and Dr. Jim Garvin, Mars program scientist. Also, recently retired JPL Director Dr. Ed Stone and Caltech President Dr. David Baltimore dropped by to congratulate the flight team.

## Goldin says goodbye to JPLers

By Mark Whalen

Outgoing NASA Administrator Daniel Goldin addresses JPL staff in von Karman Auditorium on Oct. 24.

With his retirement coming up in less than a month, NASA Administrator Daniel Goldin paid a visit to JPL Tuesday evening, hoping to share in the excitement of a successful Mars Odyssey orbit insertion. He got his wish in a big way. Wednesday morning, Goldin praised the efforts of the Odyssey team and also bid farewell to JPLers, acknowledging his ongoing challenges to JPL since he became administrator in 1992 and the Lab’s positive response. “You folks are unbelievable,” he told the audience. “I’m tougher on JPL than on any organization I deal with because I think you’re so good and you have such potential. “In your lifetime, we’re going to peer hundreds of light years into our galaxy, and if life is ubiquitous to this universe, you folks, based on the work here, are going to do it. Our society won’t have to wait hundreds of years; they’ll only have to wait decades to make this happen.” Goldin also praised the Lab’s work in the area of active sensors. noting that “JPL will have a huge impact on the defense of the country. And as important as it is for the science that we do on our own planet, and in

exploring other planets, it’s going to have huge impacts on the national defense. He also praised the Lab’s work in microwave sensing, thermal sensing and robotics. Goldin related that when he first took over as director, someone at JPL asked him “if we take risks, are we going to get in trouble?” “I said, ‘No. I’m in charge of NASA, and if failure occurs, it’s my responsibility, not yours.’” As he has so many times during his tenure in leading the agency, Goldin urged JPL to work on the cutting edge. “When you take risks and fail, you learn,” he said. “JPL has proved to the people of the world that you’re not afraid of taking risks, you’re not afraid of failing—because in failure, you learn and you do better. “You must hold your head high, and never succumb to the external pressures that live vicariously through you. Don’t blame your peers, subordinates or bosses. Look inward and see what you’ve learned from that failure.”



Photo by Enrico Piazza

JPL Director Dr. Charles Elachi thanked Goldin on behalf of the Laboratory for his vision, his integrity and for “giving JPL a hard time.” “Dan cares about us,” Elachi said. “I would rather have somebody giving us a hard time because they cared than having a good time because they don’t care.”



# News Briefs

## Alexander honored by Women at Work

DR. CLAUDIA ALEXANDER of Earth and Planetary Atmospheres Element 3233 has been named a winner of the 2001 Medal of Excellence Award by Women At Work, a Pasadena-based non-profit job and career resource center.

Alexander is both project scientist and project manager for the United States component of the Rosetta mission, an international effort to study the nuclei of comets close-up, scheduled for launch in early 2003. "Her multiple roles reflect her abilities as a scientist and manager: her skill at negotiating with administrators at NASA Headquarters on behalf of science, at carrying the interests of the United States scientific contingent to colleagues at the European Space Agency, and at the nuts-and-bolts management of a space mission at JPL," noted Women At Work in its citation.

Added her supervisor, DR. RALPH KAHN: "Dr. Alexander's energy and enthusiasm extend to scientific outreach and education as well. She is one of the leaders of the University of Michigan's "Windows to the Universe" Web site (<http://www.windows.ucar.edu>), aimed at pre-college education in astronomy. On her own time, she is also writing a series of children's books to creatively promote science literacy in entertaining ways, a task that could only be realized by an accomplished scientist having superb ability as a communicator. Claudia's strength of personality, competence, and broad range of interests, make her an inspiration to us all."

Businesses throughout the Los Angeles area honor women employees through the Women at Work award. At JPL, nominations are submitted by the Director's Advisory Council for Women.

## Halpern honored for air-sea research

DR. DAVID HALPERN, Senior Research Scientist and manager of the Earth Science and Technology Directorate's Climate Variability Program, has been elected a fellow of the American Association for the Advancement of Science. The honor is for Halpern's basic research in air-sea interactions in tropical oceans and for coordinating international efforts in measuring ocean surface quantities from satellites.

Halpern, who also is adjunct professor at UCLA's Department of Atmospheric Sciences, is a fellow of the American Geophysical Union, fellow of the American Meteorological Society, and honorary fellow of the California Academy of Sciences.

## Cassini's Grazier returns to alma mater

JPL's DR. KEVIN GRAZIER, investigation scientist and science-planning engineer for the Cassini-Huygens mission, returned to his undergraduate alma mater this month as keynoter and honorary chairperson for the "Week of Champions" at Oakland University, Rochester, Mich.

Grazier also spoke to students in the university's physics and engineering departments. He is active in the Los Angeles area in teaching the public, particularly children, about space sciences, through programs of Griffith Observatory, the Challenger Center for Space Exploration, several colleges, and television and radio shows.

Grazier's research involves computer simulations of solar-system dynamics and evolution.

## Mars '03 logo contest underway

JPL employees, resident contractors, and members of the Mars Exploration Rovers community (science team members and subcontractors) are welcome to submit designs for a logo for the project. Collaboration with others is allowed, but each design must be submitted by a JPLer, resident contractor or member of the project community.

No prizes are offered except for the gratitude of the project and, of course, bragging rights.

Criteria include the design's appropriateness for the mission, appearance (enlarged and reduced size) and visual appeal. Format: an electronic version of the design is preferred, but any

medium is acceptable. Winning designs may be modified by the project and/or by JPL Graphics.

A background information sheet on the Mars Exploration Rover Project may be obtained by e-mailing your request to ANDREW MORRISON. Deadline for entries is Nov. 9. Include your full name, phone number, e-mail address and mail stop.

Electronic designs should be submitted to Morrison and include the name of the application used to create the design. Designs in other media should be submitted to either Morrison or CONNIE GENNARO at mail stop T1722.

## Radar studies may help oil industry

Radar images of the surface of an oil field are helping scientists understand how rocks deep within the field behave, which may help oil companies reduce costs and increase production.

Researchers are monitoring where and how much the ground surface sinks as oil is pumped from a large oil field.

In this pilot study, JPL geophysicist DR. ERIC FIELDING and DR. TADEUSZ PATZEK, associate professor of petroleum engineering at UC Berkeley, looked at Chevron's Lost Hills oil field, located about 40 miles northwest of Bakersfield. Parts of the oil field have subsided 3 meters (10 feet) since 1989.

The researchers compared radar images of the oil field taken during 1995, 1996, 1998 and 1999 using radar interferometry, which involves precisely aligning two radar images taken at different times. Scientists found that parts of the oil field were subsiding unusually rapidly, more than 3 centimeters (1.2 inches) a month, in 1995 and 1996. They also discovered that while the ground subsidence rate decreased in the center part of the oil field, it increased in the northern part in every year observed between 1995 and 1999.

## X-rays show scientists the way

A type of celestial object that has long stumped astronomers has been found to emit X-rays, thus proving a theory of how the objects form.

DR. STEVEN PRAVDO of JPL and other scientists have concluded that these objects, called Herbig Haro objects, are produced by high velocity shocks. Pravdo is the lead author of a paper published in the Oct. 18 issue of the journal Nature.

Herbig Haro objects are found in nebulae, regions of dust and gas clouds where new stars are forming. They form when high-velocity gas emitted from young stars collides with clouds of interstellar material.

Observations for the past 20 years showed no evidence of X-ray emission from these objects, which are named for astronomers George Herbig and Guillermo Haro. Previous instruments lacked the resolution and sensitivity necessary to "see" these X-rays. The discovery of the X-ray emissions was possible through the very powerful Advanced CCD Imaging Spectrometer on NASA's Chandra X-ray Observatory.

## Blood drive coming in November

The next JPL/Red Cross Blood Drive will be held in von Kármán Auditorium on Nov. 13 from 10 a.m. to 4 p.m. and Nov. 14 from 7 a.m. to 1 p.m.

Prior to the blood drive, sign-up sheets will be available at Occupational Health Services (Building 310-202) and online at [http://eis/medical/blood\\_form.html](http://eis/medical/blood_form.html).

Last-minute signups will be taken at von Kármán at your preferred time. Be prepared to wait a little longer if you do not have an appointment.

If you wish to change your appointment, call the Pasadena Red Cross at (626) 960-6956, ext. 224.

The Occupational Health Services Office and the Red Cross wish to thank everyone who participated in the Aug. 14-15 blood drive. Occupational Health Services said the Red Cross collected 206 pints of blood in two days and 618 lives will benefit from that collection.

The Red Cross is currently experiencing a critical shortage of all types of blood, especially O-negative, and their inventory continues to remain below desired levels.

# Special Events Calendar

## Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

Gay, Lesbian and Bisexual Support Group—Meets the first and third Fridays of the month at noon in Building 111-117. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Parent Support Group—Meets the third Thursday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

Senior Caregivers Support Group—Meets the first Tuesday of the month at noon. For location, call the Employee Assistance Program at ext. 4-3680.

## Monday, October 29

Caltech Ballroom Dance Club—A lindy hop class, taught by a professional instructor, will be held from 7:30 to 9 p.m. in Winnett Lounge, followed by a half-hour practice session. Cost: \$8 per lesson. Contact Megan Knight at [knight@its.caltech.edu](mailto:knight@its.caltech.edu).

## Tuesday, October 30

Ethics Training—A class is available to all personnel at 11:30 a.m. in von Kármán Auditorium. A list of training sessions is available at <http://hr/et>; search on word "Ethics." The one-hour session is offered monthly or can be arranged for group presentation by calling Martha Avina, ext. 4-3154.

## Wednesday, October 31

Caltech Ballroom Dance Club—A volunteer-taught cha-cha class will be held from 7:30 to 9 p.m. in Winnett Lounge, followed by a half-hour practice session. Cost: \$1 per lesson. Contact Megan Knight at [knight@its.caltech.edu](mailto:knight@its.caltech.edu).

## JPL Stories—

Tom Gavin, Associate Director, Flight Projects and Mission Success, will present "What Could Go Wrong? ... A Halloween Story" at 4 p.m. in the Library, Building 111-104. Gavin will tell the tales of project managers' worst nightmares, how they survived and the lessons learned. For a copy of the flyer, see <http://beacon.jpl.nasa.gov/WhatsNew/Stories/Gavin.pdf>. For more information, call Teresa Bailey at ext. 4-9233.



## Thursday, November 1

JPL Gun Club—Meeting at noon in Building 183-328.

## Friday November 2

Caltech Women's Club—A Welcoming Coffee will be offered from 9 to 10:30 a.m. at a member's home, 2167 E. Crescent Drive, Altadena. For more information, call Tema Halpern, (818) 952-6214.

## Saturday, November 3

Political Satire—Comedian Mark Russell will present *Patriotic Comedy* at 8 p.m. in Caltech's Beckman Auditorium. Tickets are \$35, \$31 and \$27 for adults; \$10 for high school age and under. Call (626) 395-4652.

## Sat., Nov. 3–Sun., Nov. 4

*The Notebook of Trigorin*—Tennessee Williams' adaptation of Chekov's The

Sea Gull will be presented by Theater Arts at Caltech at 2 p.m. in Dabney Lounge. Admission price is to be determined. For information, call (626) 395-4652.

## Sunday, November 4

Chamber Music—The Orion String Quartet will perform at 3:30 p.m. in Caltech's Beckman Auditorium. Tickets are \$27, \$23, \$19 and \$15. For information, call (626) 395-4652.

## Monday, November 5

Caltech Ballroom Dance Club—The first in a five-week series of professionally taught samba classes will be held from 7:30 to 9 p.m. in Winnett Lounge, followed by a half-hour practice session. Cost: \$35 for the series or \$8 per lesson. Contact Megan Knight at [knight@its.caltech.edu](mailto:knight@its.caltech.edu) or visit <http://www.its.caltech.edu/~ballroom>.

## Tuesday, November 6

JPL Gamers Club—Meeting at noon in Building 301-227.

JPL Genealogy Club—Meeting at noon in Building 301-271.

## Wednesday, November 7

Associated Retirees of JPL/Caltech—Meeting at 10 a.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada.

Caltech Ballroom Dance Club—The first in a five-week series of amateur-taught waltz classes will be held from 7:30 to 9 p.m. in Winnett Lounge, followed by a half-hour practice session. Cost: \$1 per lesson. Contact Megan Knight at [knight@its.caltech.edu](mailto:knight@its.caltech.edu) or visit <http://www.its.caltech.edu/~ballroom>.

## Friday, November 9

Folk Music—Chulrúa (pronounced Cool-Roo'-Ah), an Irish trio specializing in old instrumental dance music of Ireland., will appear at 8 p.m. in Caltech's Winnett Lounge. Tickets are \$12 for adults and \$4 for children under 12. For more information, call (626) 395-4652 or check the Caltech Folk Music Society Web site at <http://www.cco.caltech.edu/~folkmusi>.

## Sat., Nov. 10–Sun., Nov. 11

*The Notebook of Trigorin*—Tennessee Williams' adaptation of Chekov's The Sea Gull will be presented by Theater Arts at Caltech at 2 p.m. in Dabney Lounge. Admission price is to be determined. Call (626) 395-4652.

## Monday, November 12

Caltech Management Association—JPL Deputy Director Eugene Tattini will present "An Illinois General in King Charles" Court: Perspectives on Technology Management" in von Kármán Auditorium at

4:45 p.m. Tattini will review past and current technology management practices of the Department of Defense, give his impression of the appropriateness of current NASA and JPL management practices, and compare JPL and Department of Defense practices. Tattini will also suggest areas in which he believes JPL management techniques could be improved. Admission is free. For Caltech Management Association membership (\$10 per year for JPL and Caltech personnel) information, call Priscilla Frascchetti at ext. 4-4964.





This year's JPL United Way Campaign is called "Neighbor to Neighbor, Heart to Heart." Executive Council member Blaine Baggett is the campaign chair. Universe spoke with Baggett about this year's drive.

**QUESTION** *We understand this year's campaign is going in a different direction. How so?*

We're trying some new approaches and being more aggressive in rolling out the campaign. We want to provide JPLers with the facts about what United Way is doing right here in our community. I'm convinced that if we provide the information, the giving will flow naturally.

**QUESTION** *What's the significance of the slogan 'Neighbor to Neighbor, Heart to Heart'?*

It's a great slogan, created by JPLers for JPLers. We wanted to emphasize the importance of JPL in this community. The JPL United Way campaign provides an opportunity to demonstrate that we are good neighbors. And for me, 'Heart to Heart' hints of the emotionally intrinsic values of giving.

**QUESTION** *How so?*

How does that great Lennon/McCartney line go? 'And in the end, the love you take, is equal to the love you make.' Learning how to give, in whatever form it takes, seems an essential part of all of our journeys. One small personal example: being the chair of the campaign requires giving of my time. In that time I've gotten to know wonderful people from all across the Lab who I otherwise might not have met for years. It's been time well spent. And already I've gotten back more than I have given.

**QUESTION** *How much do you expect the campaign to raise?*

The Lab has been fairly steady at raising about just under half a million dollars annually for the last seven years. That's impressive on one level. But inflation has been eating away at that figure. If you take inflation into consideration, we were not nearly as generous in 2000 as we were in 1993. We have to reverse this trend. We need to start thinking about 10% increases each year and every year.

Perhaps even more important is increasing the number of JPLers participating. In the early '90s, three out of four JPLers gave to the campaign. By 2000, that number has decreased to just one in two.

**QUESTION** *Any explanation for the decrease?*

We're not certain. I think it may have something to do with how people have been asked. In most cases I think it's simply because people haven't been asked. Or if they have been asked, they may have needed more information to make an informed decision. We hope to provide those facts this year.

What I'm certain of is that JPL is a generous and caring community of people. In fact, our first donation of the year has already come in—from a JPLer who works for the Deep Space Network in Australia. If a JPLer from 'down

under' can get us his contribution before the campaign even kicks off, I can't imagine any good excuse why we all can't take a few moments out of our busy professional lives to make a donation.

**QUESTION** *What reason would you give for participating in the campaign?*

If I had to choose just one, it's understanding that the United Way knows of the needs of our community better than any other single organization. And they can use that knowledge to move resources where they're needed most at any particular time. United Way/LA supports some 250 charities. Name a need; odds are United Way/LA is already there providing support. And if you prefer to designate your gift to a particular charity or need, United Way can accommodate that wish. All you have to do is note your charity by naming it on the one form you fill out. Then the amount can be automatically deducted from your paycheck. It's a simple procedure. And when your donation is spread out over an entire year, it's painless.

**QUESTION** *Is it possible to give funds to support the victims of Sept. 11th?*

Yes. United Way/LA has established a dedicated emergency response fund. I would encourage people who wish to give a donation to Sept. 11th to do so, and at the same time I would urge everyone to also set aside other funds to give back to our own community. There were tremendous needs in our backyard prior to Sept. 11, and those needs haven't gone away. Sept. 11 showed us powerful examples of courage and sacrifice for us to follow in our giving.

**QUESTION** *When does this year's campaign kick off?*

JPL's annual food drive is already underway. Last year, JPL employees and contractors donated enough food to help feed more than 1,000 families. We need items such as canned stew, pork and beans, soup, chili and dried foods such as cereal, coffee, flour and sugar. You can find food donation barrels placed throughout the Lab.

Of course, the annual kickoff celebration for the JPL's 2001-02 United Way campaign, "Neighbor to Neighbor, Heart to Heart," will take place Wednesday, Oct. 31 on the mall, in conjunction with the annual ERC Halloween Fashion Show. To help with the kickoff, and staying with the food drive theme, Caltech Dining Services will provide a \$6 lunch special, of which 50 cents per meal will be donated to United Way.

By the way, Halloween is a very special day for the Laboratory. The very first rocket experiment that led to the creation of the Lab occurred on Halloween back in 1936. So there are many reasons to be festive on that day, including the fashion show.

**QUESTION** *Are you dressing up for the fashion show? And if so, as what?*

It's a time-honored tradition

for the JPL United Way chair to wear a costume—something they didn't tell me when I signed on, by the way. But I'm not telling what I'm wearing. You'll have to come out and join the fun.

**EDITOR'S NOTE:** For more information, go online to <http://hr/unitedway> or contact Nancy Kapell at ext. 4-9432 or Laurie Lincoln at 4-1612.



Photo by Bob Brown / JPL Photolab

# Benefits enrollment ends Oct. 31

JPL's annual benefits enrollment period is now underway through Oct. 31. The Benefits Office urges employees to review their benefits and decide if changes are needed for the year to come.

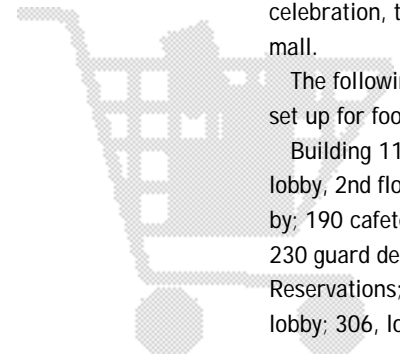
Information packages sent to employees include a summary of benefit changes for 2002, new premium rates and plan comparisons. Also included are instructions on how to use the Web to verify your current benefit elections and submit desired changes. Review this information carefully. If you want to change your

benefits or enroll in a Health Care or Dependent (Day Care) Spending Account, you need to enroll through the Web. Your enrollment takes effect Jan. 1, 2002. Unless you want to make a change or have a spending account for 2002, you don't have to do anything.

Representatives from the Benefits Office and each health plan will be on Lab from 11:30 a.m. to 1:30 p.m. on Oct. 30 in the 303 cafeteria to answer individual questions.

For more information, call the Benefits Office at ext. 4-3760.

# United Way food drive underway



In conjunction with the Halloween kickoff of JPL's annual United Way campaign, a food drive is underway on Lab through Nov. 16.

Examples of needed items include canned meats, canned meals, canned fruits and vegetables, and packaged dry foods. Food and cash donations will be accepted at the kickoff celebration, to be held Oct. 31 at noon on the mall.

The following collection points have been set up for food donations:

Building 114 (ERC lobby); 180, 1st floor lobby, 2nd floor entrance; 183, 3rd floor lobby; 190 cafeteria; 198-105, Division Office; 230 guard desk; 238, lobby; 241-208, Travel Reservations; 301, 2nd floor; 302, lobby; 303, lobby; 306, lobby; 601. guard station.

Daily Planet

online for the JPL community

Classified ads will be available the day before Universe is published, at <http://dailyplanet>

JPL's online news source

View this and previous issues of Universe online <http://universe.jpl.nasa.gov>

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**Notice to Advertisers**  
Advertising is available for JPL and Caltech employees, contractors and retirees and their families.

No more than two ads of up to 60 words each will be published for each advertiser. Items may be combined within one submission. Ads must be submitted on ad cards, available at the ERC and the Universe office, Bldg. 188-118, or via e-mail to [universe@jpl.nasa.gov](mailto:universe@jpl.nasa.gov). Ads are due at 2 p.m. on the Monday after publication for the following issue.

All housing and vehicle advertisements require that the qualifying person(s) placing the ad be listed as an owner on the ownership documents.

## Letters

My family and I gratefully acknowledge with deepest appreciation the many kind expressions of sympathy on the passing of my father. I would like to thank my friends in Section 388 and 3239, TES, AAC, and ERC for the contributions made to the Relief Fund in his name, the beautiful flowers and plants, gifts, and words of comfort and support.

Reggie Sakurai

## Classifieds

### For Sale

ARMOIRE, antique English, dark wood, \$350 obo. 626/797-6824.

BEDROOM SET, girl's, white & pink wood, 7 matching pieces, stacking bunk beds, 5-drawer chest, desk, hutch, chair & 2 mattresses, vg cond., 1 owner, originally from Kid's Room, whole set \$450/obo. 790-9772.

BEDROOM SET, full size, adjustable iron frame, box, and mattress complete, exc. cond., \$200/obo; MATTRESS, queen-size, good cond., \$50. 353-0841.

CAMPGROUND MEMBERSHIP, Mountain Lakes Resorts in Lytle Creek, San Bernardino Mountains, only 1.5 hours from JPL, 2 lakes for fishing, pools, Jazz.; hiking, tent, motor home, or cabin camping; beautiful, close enough for a weekend, camp any time of the year as often as you want, pd. \$6,000 two years ago, sell \$5,000/obo. 626/358-1228.

CHAIR, recliner, mauve velvet, exc. cond., \$100/obo. 848-4541, Mary.

CHANDELIER, solid brass for hanging over dining room table, about 20-inch diameter, with five arms, each with bulb. 547-0705.

CHINA CABINET, 1950s Drexel mahogany, [lelson@altavista.com](mailto:lelson@altavista.com) for photo, \$600 cash and carry. 353-9367.

COOLERS, Coleman, two, large, good cond., \$15/ea.; BICYCLES, four, children's, \$15/ea.; SHOVELS, six, compact, squarepoint, \$5/ea.; FIREPLACE SCREEN, black, and accessories, \$50/all. 626/357-8210.

COUCH, Italian leather, brown, \$350; TAPE DECK, Sony duel, Dolby sound, \$50. 626/844-9228.

DINING ROOM TABLE and 6 matching chairs, Ikea Abo, upholstered chairs, solid patinated pine; 41" diameter, one 19" leaf; chairs 17.5" seat, 35" back; fair to good with table top scratches, couple of paint drips, easy to fix; see <http://mow.ecn.purdue.edu/~stough/forsale.html>; \$400/obo. 626/798-4265.

DOGGIE DOOR, for small to medium dog, fits 79" slider, exc. cond., \$75/obo; CURTAIN ROD, adjustable, includes hardware, 2.5" wide, extends approx. 78" to 140" long, exc. cond., \$15. 661/263-2216.

ENTERTAINMENT CENTER, holds 27"-30" TV; 4 adjustable shelves, glass front, VHS/CD storage; 5 ft. wide x 4 ft. tall x 20" deep; Ikea black modern; see <http://mow.ecn.purdue.edu/~stough/forsale.html>; \$400/obo. 626/798-4265.

FOSSILS: great holiday present for a kid or kid-at-heart, reducing lg. collection that incl.s several dinosaur tracks and many other fossils; photos at <http://mow.ecn.purdue.edu/~stough/fossils.html>. 626/798-4265.

FURNITURE: classic Chesterfield leather set sofa/chair/ottoman, burgundy, exc. cond., \$1,600. 805/490-0986 or [wlerchner@hotmail.com](mailto:wlerchner@hotmail.com).

GATE, wrought iron, painted black, 1.5 yr. old, 4-ft wide, 7-ft tall, curved top, with 9 inside vertical bars spaced 4", comes with standard lock, hinge bar and locking bar, \$80/obo. 626/791-6101.

HOCKEY TICKETS, Kings season ticket holders selling selected games, 2 exc. seats, \$95/both. 626/852-821.

KEYBOARD for PC, new, standard, Dell, \$10. 547-0705.

LASER POINTER, brand new, high quality, 4 different pattern heads, key chain, hard case and three batteries, great in presentations for engineers, teachers, tour guides, and fun for kids and pets, perfect as a gift for almost any occasion, \$5. 661/257-4350.

MATTRESS, spring, for queen size sofa bed, never used, \$100/obo. 661/263-2216.

CAR RACE TICKETS, Marlboro 500, Nov. 4 in Fontana, 4 tickets, Section 76, Row 28, Seats 1, 2, 3, 4, face value price, \$85/per ticket. 626/284-1851.

MISC: baby monitor, \$12; car seat, 20-40 lbs, \$20; infant car seat, \$10; baby gym, \$5; security gates, \$5; crib mattress, \$20; all in exc. cond. 626/850-4378.

MOVING SALE: dining table, rectangular, temper glass top, smoke color, w/6 matching chairs, contemporary style, \$55; sofa/chair, matching, light color fabric, no stains, well maint., contemporary style, w/2 coffee tables, \$100; take all for \$200. 626/688-7334.

PLANTS, two purple Wisteria trees in 5-gal plastic pots, \$15/each/obo. 626/791-6101.

REFRIGERATOR, Amana, 22 cu. ft. side-by-side, white, exc. cond., \$250. 626/795-6538.

REFRIGERATOR, G.E., 18 cu. ft., white, top freezer, great cond., \$150. 661/263-2760.

SHOES, men's Hush Puppies, black, sz. 8 1/2, hardly worn, pd. \$59, sell \$39/obo. 626/351-0348.

SLIDE RULE, with case, collector's item, 4", Sun Hemme, about 1960 vintage. 790-5643.

SOFA, vg cond., blk. leather, \$100; SOFA BED, vg cond., \$100; COFFEE TABLE, mirror top, vg cond., \$40. 909/591-3312.

SPEAKERS, for home theater, Harman Kardon HKT51, 5 satellites + 75W powered subwoofer, cables, brand new in box, \$200. 550-7555, Rob.

STAIR MACHINE, good cond., \$39. 626/793-9907, leave msg. for Dan.

TABLES: coffee, fair cond., and 2 end, gd. cond., cherry wood, \$50, dining rm., + 4 chairs, cherry wood, black, \$100; REFRIGERATORS (2), G.E., white, 15 years old, beige, 17 years old, side-by-side, \$100 ea.; SOFA/ SLEEPER, makes into qn. size bed, abstract design, black, blue and mauve, good cond., \$300. 626/357-8210.

WASHING MACHINE, Magic Chef, white, 20 lb. capacity, 3 wash spd. combos (permanent press, cotton/linen, knit/delicate), 8 wash cycles, perf. cond., \$80. 626/688-7334.

WEDDING GOWN, Mori Lee designer, scalloped neckline, short capped sleeve, satin bodice overlaid w/lace and re-embroidered appliques, trimmed w/sequins, pearls, deep v-back meets satin bow at waist, no train, purch. late 2000, worn once, clean, size 12, fits 5' 8", <http://www.morileeinc.com/catalog/C200155pix1.html>, \$199/obo. 241-3779.

WHEELCHAIR, power, Everest & Jennings, exc. cond., easy-to-use joystick, foot rest, removable battery for travel. 626/798-0033.

WOODWORKING TOOLS: Dewalt radial arm saw, \$300; tabletop drill press, commercial grade, \$100; jointer/planer, \$100; table saw, \$100. 353-5671.

ZIP 100 DRIVE, w/USB adapter, includes 8 Zip disks, \$50/obo. 248-8139.

### Vehicles/Accessories

'98 BMW 540i, midnight blue with gray interior, 49K, 1 owner, fantastic condition, premium dealer package, fully loaded, a dream car, \$27,500/obo. 203-7999, Andy.

'97 BMW 740iL, white, loaded, all possible extras, orig. owner, exc. cond., \$29,500/obo. 360-6364.

'96 CHEVROLET Silverado ext. cab, excellent, \$1,500 below Kelly BB, 71K miles, lots of extras, [home.earthlink.net/~elrey10](http://home.earthlink.net/~elrey10) for photos and info, \$10,479. 909/482-4425.

'94 CHEVROLET Astro Van LT EXT, blue 2 tone, new tires, pwr. windows/locks, seats 8 with 6 reclining seats, looks and runs great, 118 k miles, one owner, great family van, \$5,500/obo. 953-7215.

'95 FORD Probe hatchback, black, 2 dr., a/c, p/s, am/fm stereo, cassette, cruise control, tilt wheel, dual airbags, 57,600 mi., new tires, brake pads and car cover, super clean, must sell, \$4,900/obo. 626/799-5368, eves. or weekend after 5 p.m., leave message.

'01 FORD Taurus LS plus, 4-dr. sedan, 16K mi., exc. cond., silver, loaded, incl. auto trans, a/c, keyless remote entry, am/fm stereo/cassette, 5-spoke alum. wheels, \$15,800. 909/623-7867 or 213/276-8755.

'86 FORD F150 XLT Lariat, extended cab, 107,000 miles, class 3 tow hitch, gd mechanical & interior cond., fuel injected, 305 V8, auto, a/c, SRW, CC, AM/FM/cass, \$3,000. 805/584-2721 or [jcardone@sminet.net](mailto:jcardone@sminet.net).

'91 HONDA Accord LX wagon, 114K mi., well maintained, 1 owner, air, stereo-cassette, 1-year-old tires, replaced battery, \$5,000/obo. 626/840-0955, leave msg.

'88 HONDA Civic CRX Si hatchback, 2 dr., 4 cyl., 1.6 liter engine, 5 spd. manual trans., front wheel drive, 90,000 mi., air, am/fm cas-

sette stereo, alloy wheels, slide back roof, very good cond., \$3,500. 626/797-5149 or [Nomor17@aol.com](mailto:Nomor17@aol.com).

81 HONDA Gold Wing GL 1100 I motorcycle. 180K, fully equipped, includes helmet with speakers for intercom, extra custom leather seats, saddle bags and ferring, \$750/obo. 682-2392, lv. msg.

'90 MAZDA RX-7 convertible, 2 dr., white w/black top, blue leather, a/c, CD/tape/HiFi, dr. A/B, pwr. wind. glass rear window, sport wheels, RacingBeat exhaust, fast and fun, \$5,400. 841-4849 or [hje@rocketship.com](mailto:hje@rocketship.com).

'88 MAZDA 323 SE, 2-dr. hatchback, red, 66K mi, 5-spd, a/c, am/fm, cassette, anti-theft, 1 owner, all records, good cond., \$1,800. 790-0801.

'90 MERCEDES 300 SE, exc. cond., 86K mi., 4 dr., black w/black leather, sun rf. cruise, new tires, \$11,995. 626/797-7589 or [ljbuden@juno.com](mailto:ljbuden@juno.com).

'90 NISSAN 240SX SE Fastback, red, 5-speed, flip-up/removable sunroof, power steering, tilt wheel, cruise, AM/FM stereo, single-owner, all records, 100K miles, good cond., \$3,500/obo. 323/467-4742.

'90 PONTIAC Transport van, 7 passenger, two-toned exterior, red with gray trim, gray interior, good running cond., drastically below wholesale blue book value, \$ 1,750. 626/850-4378.

'95 SUBARU Legacy L wagon, 4 dr., automatic, AWD, taupe exterior, 74K mi., a/c, power doors/windows, roof rack, am/fm radio/cass., alloy wheels, good cond., runs great, \$8,000/obo. 790-1099.

'94 TOYOTA Tercel DX sedan, 4 dr., auto., a/c, power steering, am/fm stereo, 120K mi., runs great, \$4,200. 626/445-3808.

'91 TOYOTA Celica ST, blue, good cond., one owner, 82K mi., 5 spd., a/c, \$4,800/obo. 323/255-8071.

'83 TOYOTA Celica GTS, white, hatchback, body/interior in good cond., 5 spd, 120K miles, one owner, maintenance records available, \$1,600. 353-3325.

'71 VOLKSWAGEN Bug, new eng., 1854 high perform., dual carburetor, new interior, 4 spd., 2,600 mi., am/fm & CD, light blue, runs, exc. cond., \$3,000. 626/213-0136.

'93 VOLVO 240 wagon, 82K mi., teal green metallic, automatic, air conditioning, am/fm/cassette, 3rd seat, roof rack, new brakes, great family car, Blue Book \$12,700, sell \$10,500. 626/791-4206.

### Wanted

DAILY AFTER-SCHOOL PICKUP, child care, homework study and light tutoring for La Canada 8th, 5th and 4th grader in family house. 790-8760.

CARPOOLER, Arcadia area, hours are 7:00 to 4:00, even if you are interested in only part time please call Shary DeVore, 4-1024.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present. 790-8523, Marc Rayman.

VOLLEYBALL PLAYERS, coed, no beginners please, every Tuesday night 8-10 at Eagle Rock High School, \$3/night. 956-1744, Barbara.

### Free

COMPUTER, Mac 6100/80, 100mb RAM, 24-bit Nubus display card, modem, tablet, etc, no hard drive, 818/249-1337.

### Lost & Found

FOUND: handheld amateur radio, October 12, call to identify and claim. 3-7786, Marc.

### For Rent

ALTADENA, furn. bd. in home in quiet lush high cyn. area, kitchen/laundry privileges, no pets/no smoking, 10 min./JPL, \$400. 626/797-8082.

LA CANADA-FLINTRIDGE, separate, small room, w/bathroom, a/c partially furn., gated separate entr., temporary OK, close to JPL, very private, \$650. 790-1893, lv. msg.

LA CRESCENTA, charming Spanish house, 2 + 1, Briggs area above Foothill Blvd., tile floors, skylights, \$1,600. 249-0701.

LA CRESCENTA, spacious 1-bd., 1-ba., condo, above Foothill, 1-car garage, includes gas, central air & heat, dishwasher, stove, trash compactor, laundry room, 10 min. to JPL. 952-5626.

LA CRESCENTA, 1-bd. guesthouse, private entrance and parking, patio/garden, fridge, laundry, central a/c, full bath, quiet safe neighborhood, no smoking/pets, single person only, basic cable/utls. included, credit check, avail. Nov., \$695. 957-2173.

MONROVIA, 1-bd. guest house plus large bonus bldg. w/hooksups; very private, clean and quiet; water, trash & gardener incl.; avail. Nov.1; \$650. 626/357-6955.

MONROVIA HILLS, in a single family house, 2 rooms with 2 separate bathrooms, share kitchen & laundry facilities, utilities, cable TV included, no smoking, no pets, 14 miles from JPL, \$475. 626/358-7728.

MONTROSE, 2 large bd., 2 full ba., town-home, 2-car garage, near JPL, drive by, 2735 Piedmont Ave, Montrose, \$1,200. 800/205-5009 X222 for application.

PASADENA, 1 bd., 1 ba., apartment, furnished, a/c, parking, newly refurbished, close to PCC and Caltech, \$895 plus utilities. 626/351-9641.

PASADENA, apartment to share, fully furnished, a/c, parking, patio, laundry facilities, no pets, \$575 plus utilities. 626/351-9641.

PASADENA, studio apartment, w/balcony, 2 blks. from PCC, new paint/carpet/blinds, off-street parking, no pets, avail. 11/12, utilities paid, \$500. 352-7484.

SOUTH PASADENA, studio apt, 1718 Huntington Dr. between Marengo and Milan Sts, fully furnished, utilities paid, car space, laundry, no pets, non-smoker, \$750. 626/792-9053, Marilyn or Ray.

### Real Estate

MAMMOTH LAKES condo unit, 2 bd., 2 ba., exc. cond., newly redecorated & refurbished, floor to beamed ceiling fireplace in liv. rm., balcony offers superb view of Mammoth Mtn., all elec. kitchen, desirable location in complex, close to Canyon Lodge, potential rental income. 249-8524.

PASADENA, executive condo next to Caltech, totally remodeled, 2 bd., + 1.75 ba., 1,200 sq. ft. newly refinished hardwood floors in dining room, newer appliances, carpet & paint, large balcony, just redone, overlooking beautiful trees, top floor unit in park-like setting, walk to Caltech & S. Lake Ave, nice pool and spa, \$259K. 626/585-9048.

SUNLAND house, 5 bd., 3 ba., custom built with den/office, fireplace in liv. rm., separate craft/laundry rm., updated kitchen with built-ins, copper plumbing, ceiling fans, 3 phone lines, 2600 sf, pool/spa, 2-car detached gar. on oversize lot, close to schools, mtn. views, 15 min. to JPL, \$352,900. 949-5761, agent.

### Vacation Rentals

BIG BEAR LAKEFRONT, luxury townhome, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.

HAWAII, Kona, ocean front on Keauhou Bay, house & guest house comfortably slp. 6, 3 bd., 2 ba.; rustic, relaxing, beautiful; swimming, snorkeling, fishing; spectat. view, nr. restaur., golf, other attractions. 626/584-9632.

HAWAII, Maui condo, NW coast, on beach w/ocean view, 25 ft. fr. surf, 1 bd. w/loft, compl. furn., phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps. 4, 4/15-12/14 \$105/nite/2, 12/15-4/14 \$120/nite/2, \$15/nite/add'l person. 949/348-8047.

MAMMOTH, Chamonix condo, at lifts 7, 8, 16, 17, walk to Warming Hut; 2 bd., 2 full ba., sleeps 6; newly refurbished, fully equipped elec. kitchen, w/microwave & extras, f/p and wood, color TV, cable, FM stereo, VCR, pool & sun areas, o/d Jacuzzi's, sauna: game, rec. & Indry rms., play & BBQ area; conv. to shops, lifts, hiking, special events, daily/weekly rates. 249-8524.

MAMMOTH, Courchevel, fully equipped unit, 2 bd., 2 ba., sleeps 6, short walk to Canyon Lodge and ski lifts. 661/255-7958.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, sleeps 6-8, fully equipped kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/view to mtns., Jacuzzi, sauna, streams, fishponds, close to Mammoth Creek, JPL discount. 626/798-9222 or 626/794-0455.

OCEANSIDE, on the sand, charming 1-bd. condo, panoramic view, walk to pier & harbor, pool/spa, game rm., sleeps 4. 949/786-6548.

OCEANSIDE condo, fully furnished 2 bd., 2 ba., fireplace, full kitchen, quiet, relaxing, beautiful setting at beachside, with barbeque, pool, spa, game room, great ocean view, easy walk to pier and restaurants, sleeps 6, available weekly or monthly. 909/981-7492, Darlene or [dfhauge@yahoo.com](mailto:dfhauge@yahoo.com).

PACIFIC GROVE hse, 3 bd., 2 ba., f/p, cable tv/vcr, stereo/CD, well-eqpd. kit w/microw, beaut. furn. close to golf, bches, 17 Mile Dr., Aquarium, Cannery Row, JPL discont. 626/441-3265.

ROSARITO BEACH condo. 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.